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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,243

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EXAMINER

BALDRIDGE, BENJAMIN M

ART UNIT

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4158

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,243	Applicant(s) TAMAKI ET AL.	
	Examiner BENJAMIN M. BALDRIDGE	Art Unit 4158	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>13 November 2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 8 are presented for examination.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Figure 7: items 17a, 17b, 29a, 29b.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because of excessive length.

Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single

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paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The disclosure is objected to because of the following informalities:

[0014]: the meaning of the phrase "may be 1/10 or less the measuring wavelength" is unclear. For the purposes of examination, it is assumed that the intended meaning is: "may be equal to or less than 1/10 of the measuring wavelength".

Appropriate correction is required.

Claim Objections

5. Claim 5 is objected to because of the following informalities:

The meaning of the phrase "is 1/10 or less the measuring wavelength" is unclear. For the purposes of examination, it is assumed that the intended meaning is: "is equal to or less than 1/10 of the measuring wavelength".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1 and 4 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The term “in the vicinity” as recited in the instant claims, critical or essential to the practice of the invention, is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The term “in the vicinity” is not defined in the specification, and is therefore too vague to enable one of ordinary skill in the art to make and use the claimed invention.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 - 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cascade Microtech Technical Brief TECHBRIEF4-0694 (Cascade Microtech Technical Brief TECHBRIEF4-0694, Cascade Microtech, Inc. Beaverton OR, 97006, copyright 1994 Cascade Microtech, Inc., hereinafter referred to as Cascade), and further in view of Agilent 8510C Network Analyzer Data Sheet (Agilent 8510C Network Analyzer Data Sheet, copyright Agilent Technologies, Inc., 2002, 2006, hereinafter referred to as Agilent).

10. As to claims 1 and 4, Cascade discloses a method and apparatus for calibrating probe tip measurements having:

A probe that is connected to said measuring instrument and has a single signal terminal and at least one ground terminal [claim 4] (Page 1, column 1, paragraph 3);

Measuring device has a variable impedance element is disposed in the vicinity of one terminal selected from said signal terminal and said ground terminal of said probe [claim 4] (Page 1, column 2, Figure showing probes connected to ISS standards).

Although Cascade discloses substantial features of the claimed invention, Cascade fails to disclose:

A measuring instrument [claim 4].

Nonetheless this feature is well known in the art and would have been an obvious modification of the method and apparatus disclosed by Cascade, as evidenced by Agilent. Agilent discloses:

A measuring instrument [claim 4] (Page 2, column 2, paragraph 1) in order to measure the measuring object.

Given the disclosure of Agilent, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying Cascade by employing the well known or conventional feature of a measuring instrument, as disclosed by Agilent, in order to measure the electrical characteristics of a measurement object, and for the purposes discussed above.

The method recited in claim 1 is intrinsic to the apparatus recited in claim 4, and is therefore rejected under 35 USC 103(a), as discussed above.

11. As to claims 2 and 6, although Cascade discloses a method and apparatus having substantial features of the claimed invention, Cascade fails to disclose:

An input unit for inputting the allowable value of a parameter for evaluating the measurement error of the electrical characteristics of the measurement object [claim 6];

A storage and computation unit for storing the impedance of said variable impedance element, the measurement values obtained from said probe, and the relational characteristics thereof [claim 6];

Calculating a parameter for evaluating the measurement error from the relational characteristics, and comparing said parameter and said allowable value [claim 6];

An output unit for outputting the results of said storage and computation unit [claim 6].

Nonetheless these features are well known in the art and would have been an obvious modification of the method and apparatus disclosed by Cascade, as evidenced by Agilent. Agilent discloses:

An input unit for inputting the allowable value of a parameter for evaluating the measurement error of the electrical characteristics of the measurement object [claim 6] (Page 16, column 2, page 17, column 1) in order to set limits on the measurement error;

A storage and computation unit for storing the impedance of said variable impedance element, the measurement values obtained from said probe, and the relational characteristics thereof [claim 6] (Page 18, column 1) in order to store and calculate results from the measurements;

Calculating a parameter for evaluating the measurement error from the relational characteristics, and comparing said parameter and said allowable value [claim 6] (Page 16, column 2) in order to furnish required electrical measurement data;

An output unit for outputting the results of said storage and computation unit [claim 6] (Page 15, column 1) so that the measurement data can be used.

Given the disclosure of Agilent, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying Cascade by employing the well known or conventional features of an input unit, a storage and computation unit, calculation of a parameter for evaluating measurement error, and an output unit, as disclosed by Agilent, in order to measure the electrical characteristics of a measurement object, and for the purposes discussed above.

The method recited in claim 2 is intrinsic to the apparatus recited in claim 6, and is therefore rejected under 35 USC 103(a), as discussed above.

12. As to claim 3, Cascade discloses a method and apparatus for calibration having:

Disconnecting and calibrating said signal terminal and said ground terminal in a location separated from peripheral objects [claim 3] (Page 1, column 2, Figure);

Electrically conducting said signal terminal and said ground terminal to a single conductor to perform a short-circuit calibration [claim 3] (Page 1, column 2, Figure);

Electrically connecting said signal terminal and said ground terminal to a terminal of a 50Ω resistor to perform a loaded calibration [claim 3] (Page 1, column 2, Figure).

13. As to claim 5, Cascade discloses a method for calibration of a measurement apparatus having:

The distance between said variable impedance element and the distal end of said signal terminal or said ground terminal as one of the terminals provided with said variable impedance element is $1/10$ or less the measuring wavelength when the electrical characteristics of said measurement object are measured [claim 5] (Page 1, column 2, Figure showing probes on ISS standards – note distance (6 mils) between probe blades. It should be noted that if the distance of 6 mils is assumed to be $1/10$ of the measuring wavelength, the resultant frequency in free space is approximately 196 GHz).

14. As to claim 7, Cascade discloses a method and apparatus for calibration having:

Disconnecting and calibrating said signal terminal and said ground terminal in a location separated from peripheral objects [claim 7] (Page 1, column 2, Figure);

Electrically conducting said signal terminal and said ground terminal to a single conductor to perform a short-circuit calibration [claim 7] (Page 1, column 2, Figure);

Electrically connecting said signal terminal and said ground terminal to a terminal of a 50Ω resistor to perform a loaded calibration [claim 7] (Page 1, column 2, Figure).

15. As to claim 8, although Cascade discloses a method and apparatus having substantial features of the claimed invention, Cascade fails to disclose:

An input unit for inputting the allowable value of a parameter for evaluating the measurement error of the electrical characteristics of the measurement object [claim 8];

A storage and computation unit for storing the impedance of said variable impedance element, the measurement values obtained from said probe, and the relational characteristics thereof [claim 8];

Calculating a parameter for evaluating the measurement error from the relational characteristics, and comparing said parameter and said allowable value [claim 8];

An output unit for outputting the results of said storage and computation unit [claim 8].

Nonetheless these features are well known in the art and would have been an obvious modification of the method and apparatus disclosed by Cascade, as evidenced by Agilent. Agilent discloses

An input unit for inputting the allowable value of a parameter for evaluating the measurement error of the electrical characteristics of the measurement object [claim 8] (Page 16, column 2, page 17, column 1) in order to set limits on the measurement error;

A storage and computation unit for storing the impedance of said variable impedance element, the measurement values obtained from said probe, and the relational characteristics thereof [claim 8] (Page 18, column 1) in order to store and calculate results from the measurements;

Calculating a parameter for evaluating the measurement error from the relational characteristics, and comparing said parameter and said allowable value [claim 8] (Page 16, column 2) in order to furnish required electrical measurement data;

An output unit for outputting the results of said storage and computation unit [claim 8] (Page 15, column 1) so that the measurement data can be used.

Given the disclosure of Agilent, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying Cascade by employing the well known or conventional features of an input unit, a storage and computation unit,

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calculation of a parameter for evaluating measurement error, and an output unit, as disclosed by Agilent, in order to measure the electrical characteristics of a measurement object, and for the purposes discussed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN M. BALDRIDGE whose telephone number is (571)270-1476. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571 272 2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Benjamin M Baldrige/
Examiner, Art Unit 4158

/Walter Benson/
Supervisory Patent Examiner, Art Unit 4158

